WHAT IS CLAIMED IS:

1. A surface emitting semiconductor laser comprising:

a substrate;

a first mirror that is formed on the substrate and includes semiconductor layers of a first conduction type;

a second mirror that includes semiconductor layers of a second conduction type;

an active region disposed between the first and second mirrors;

a current confinement layer that is disposed between the first and second mirrors and includes a selectively oxidized region; and

an inorganic insulation film,

a mesa structure including at least the second mirror and the current confinement layer,

the inorganic insulation film covering at least a side surface of the mesa structure and having an internal stress equal to or less than 1.5×10^9 dyne/cm^2.

2. The surface emitting semiconductor laser as claimed in claim 1, wherein the inorganic insulation film comprises silicon oxide, silicon nitride and/or silicon oxynitride.

3. The surface emitting semiconductor laser as

claimed in claim 1, wherein the inorganic insulation film is a film formed by a plasma-assisted chemical vapor deposition process.

4. The surface emitting semiconductor laser as claimed in claim 2, wherein the silicon nitride film is a film formed by monosilane and ammonia mixed with a dilution gas of hydrogen or nitrogen, and a ratio of hydrogen in the dilution gas is approximately 50%.

5. The surface emitting semiconductor laser as claimed in claim 2, wherein silicon oxynitride is formed by monosilane mixed with a gas of dinitrogen monoxide and nitrogen.

6. The surface emitting semiconductor laser as claimed in claim 1, wherein the internal stress of the inorganic insulation film is equal to or less than $3x10^8$ $dnye/cm^2$.

7. A surface emitting semiconductor laser comprising:

a substrate;

a first semiconductor laminate of distributed a feedback type formed on a first main surface of the substrate, the first semiconductor laminate having a first conduction type;

an active region formed on the first semiconductor laminate;

a second semiconductor laminate of distributed feedback type formed on the active region, the second semiconductor laminate having a second conduction type;

a current control layer that includes at least one $Al_xGa_{1-x}As$ ($0.9 \leq x \leq 1$) having a partially oxidized region and is interposed between the first and second semiconductor laminates; and

an inorganic insulation film,

a mesa structure ranging at least from an upper portion of the second semiconductor multilayer to the current control layer,

the inorganic insulation film covering at least an upper surface and side surface of the mesa structure and having an internal stress equal to or less than 1.5×10^9 dyne/cm^2.

8. The surface emitting semiconductor laser as claimed in claim 7, wherein the inorganic insulation film comprises silicon oxide, silicon nitride and/or silicon oxynitride.

9. The surface emitting semiconductor laser as claimed in claim 7, wherein the inorganic insulation film is a film formed by a plasma-assisted chemical vapor deposition process.

10. The surface emitting semiconductor laser as claimed in claim 8, wherein silicon nitride is formed by

monosilane and ammonia mixed with a dilution gas of hydrogen or nitrogen, and a ratio of hydrogen in the dilution gas is approximately 50%.

11. The surface emitting semiconductor laser as claimed in claim 8, wherein silicon oxynitride is formed by monosilane mixed with a gas of dinitrogen monoxide and nitrogen.

12. The surface emitting semiconductor laser as claimed in claim 7, wherein the internal stress of the inorganic insulation film is equal to or less than $3x10^8$ dnye/cm^2.

13. A surface emitting semiconductor laser comprising:

a substrate;

a first mirror including a first conduction type semiconductor layer formed on the substrate;

a second mirror including a second conduction type semiconductor layer;

an active region interposed between the first and second mirrors;

a current confinement portion that includes a selectively oxidized region and is interposed between the first and second mirrors; and

an inorganic insulation film,

a mesa structure including at least the second mirror

and the current confinement portion,

the inorganic insulation film covering at least a side surface of the mesa structure and including a laminate of a first insulation film having tensile stress and a second insulation film having compressive stress.

14. The surface emitting semiconductor laser as claimed in claim 13, wherein the inorganic insulation film comprises silicon oxide, silicon nitride and/or silicon oxynitride.

15. The surface emitting semiconductor laser as claimed in claim 13, wherein the first and second insulation films comprise silicon nitride.

16. The surface emitting semiconductor laser as claimed in claim 13, wherein:

the first insulation film is a first silicon nitride film;

the second insulation film is a second silicon nitride film; and

the first insulation film has a lower amount of hydrogen than that of the second insulation film.

17. The surface emitting semiconductor laser as claimed in claim 16, wherein the second silicon nitride film is formed by monosilane and ammonia mixed with a dilution gas

of hydrogen and nitrogen, and a ratio of hydrogen in the dilution gas is approximately 60%.

18. A surface emitting semiconductor laser comprising:

a substrate;

a first semiconductor laminate of distributed a feedback type formed on a first main surface of the substrate, the first semiconductor laminate having a first conduction type;

an active region formed on the first semiconductor laminate;

a second semiconductor laminate of distributed feedback type formed on the active region, the second semiconductor laminate having a second conduction type;

a current control layer that includes at least one $Al_xGa_{1-x}As$ ($0.9 \leq x \leq 1$) having a partially oxidized region and is interposed between the first and second semiconductor laminates; and

an inorganic insulation film,

a mesa structure ranging at least from an upper portion of the second semiconductor multilayer to the current control layer,

the inorganic insulation film covering at least an upper surface and side surface of the mesa structure and having a laminate of a first insulation layer having tensile stress and a second insulation film having compressive stress.

19. The surface emitting semiconductor laser as claimed in claim 18, wherein the inorganic insulation film comprises silicon oxide, silicon nitride and/or silicon oxynitride.

20. The surface emitting semiconductor laser as claimed in claim 18, wherein the first and second insulation films comprise silicon nitride.

21. The surface emitting semiconductor laser as claimed in claim 18, wherein:

the first insulation film is a first silicon nitride film;

the second insulation film is a second silicon nitride film; and

the first insulation film has a lower amount of hydrogen than that of the second insulation film.

22. The surface emitting semiconductor laser as claimed in claim 21, wherein the second silicon nitride film is formed by monosilane and ammonia mixed with a dilution gas of hydrogen and nitrogen, and a ratio of hydrogen in the dilution gas is approximately 60%.

23. A method of fabricating a surface emitting semiconductor laser of selective oxidization type comprising the steps of:

forming, on a substrate, multiple layers including first and second mirrors, a current confinement layer and an active region;

forming a mesa structure ranging at least from the second mirror to the current confinement layer;

oxidizing the current confinement layer from a side surface of the mesa structure; and

forming an inorganic insulation film that covers at least a side surface of the mesa structure and an internal stress equal to or lower than $1.5x10^9$ dyne/cm^2.

24. The method as claimed in claim 23, wherein the inorganic insulation film comprises silicon oxide, silicon nitride and/or silicon oxynitride.

25. The method as claimed in claim 23, wherein the step of forming the inorganic insulation film uses plasma-assisted chemical vapor deposition.

26. The method as claimed in claim 23, wherein the step of forming the inorganic insulation film comprises a step of forming a silicon nitride film using a source gas of monosilane and ammonia mixed with a dilution gas of hydrogen and nitrogen.

27. The method as claimed in claim 26, wherein a ratio of hydrogen contained in the dilution gas is approximately 50%.

28. The method as claimed in claim 23, wherein the inorganic insulation film comprises silicon oxynitride by using a gas of monosilane mixed with a gas of dinitrogen monoxide and nitrogen.

29. The method as claimed in claim 23, wherein the inorganic insulation film comprises a first silicon nitride having tensile stress and a second silicon nitride having compressive stress.

30. The method as claimed in claim 29, wherein the first silicon nitride contains a smaller amount of hydrogen than that of the second silicon nitride.

31. The method as claimed in claim 30, wherein the second silicon nitride is formed by a source gas of monosilane and ammonia mixed with a dilution gas of hydrogen and nitrogen, and a ratio of hydrogen in the dilution gas is equal to or more than 60%.